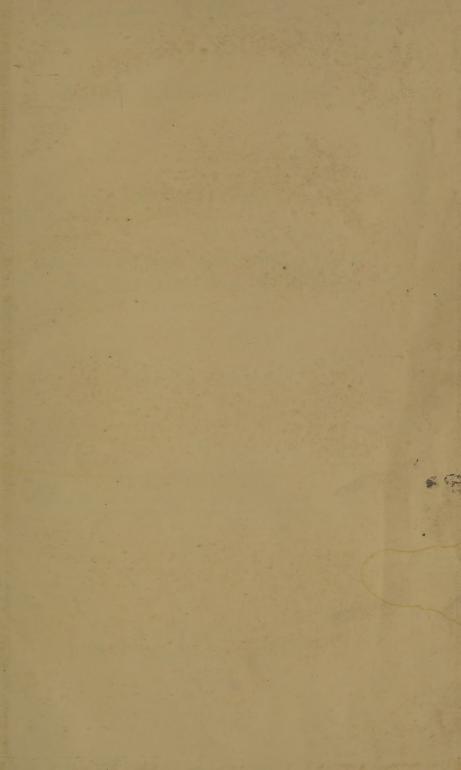


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Twit the Author Complined

RATIONAL MEDICINE:

VINDICATION.

THE ADDRESS DELIVERED ON THE OPENING OF THE NEW SCHOOL OF MEDICINE, SURGEONS' HALL, EDINBURGH, NOVEMBER 6, 1849.

WITH AN APPENDIX.

BY

ALEXANDER WOOD, M.D.,

FELLOW AND MEMBER OF COUNCIL OF THE ROYAL COLLEGE OF PHYSICIANS, EMERITUS PRESIDENT OF THE ROYAL MEDICAL SOCIETY, &c.

EDINBURGH:

MACLACHLAN AND STEWART. LONDON: JOHN CHURCHILL.

MDCCCXLIX.



THE STUDENTS

ATTENDING

THE SCHOOL OF MEDICINE

SURGEONS' HALL, EDINBURGH.

GENTLEMEN,

The connection subsisting between us induces me to dedicate to you the following Address, which was delivered at the opening of our New School, and which is now published at the request of those to whose opinion it is my duty to defer. I shall not regret that I complied with their request, should my doing so have the effect of stimulating you to an ardent pursuit after *principles* in Medicine. The possession of these principles, be assured, will increase your interest in the practice of your art, and will add much to your comfort in the discharge of your professional duties.

These are objects which, as a Teacher of Medicine, I have ever sought to promote, and to which, I trust, the publication of the following pages may contribute.

I am, Gentlemen,

Your obedient servant,

ALEXANDER WOOD.

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19 ROYAL CIRCUS, 27th November, 1849.

CONTENTS.

	PAGE
Inaugural Address,	1
Appendix,—	
A.—The New School of Medicine,	51
B.—Influence of the College of Surgeons in founding	
the Medical School in Edinburgh,	52
C.—On the Curability of Pulmonary Consumption,	54
D.—On the alleged Cure of Miss Martineau by Mes-	
merism,	71
E.—Remarks on Mr. Greenhow's Medical Report of	
Miss Martineau's Case,	86

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INAUGURAL ADDRESS.

GENTLEMEN,

The place and circumstances in which we are assembled—the varied character and position of those who are met—the difficulty of selecting topics which may not be uninteresting to any, claim for me the indulgence of those whom I have now the honour to address. There is the student. to whom the whole domain of medicine is an unknown land; there are fathers of our profession, at whose feet I would gladly learn wisdom; and there are members of other learned bodies, whom curiosity or the kindliness of friendship has brought among us; and I feel how inadequate I am to do justice to the theme I have chosen. But, at least, I bring to it a willing mind. Honouring and reverencing the profession to which we belong, in this age of mingled scepticism and credulity, I would

cling all the more closely to those guides which can alone safely conduct through the mists of ignorance, and the quicksands of presumption, to some sure resting-place. But the very reverence I feel makes me the more sensible of my inability to do justice to the subject selected for illustration, and increases my regret that I should have been chosen to occupy my present position. But I must, to a certain extent, dismiss all other considerations, and addressing those about to enter on the study of a noble profession, bid them pause and consider its aspect and its bearings.

Were you called on to examine some fabric reared by the art of man, you would not take your stand on one pinnacle however lofty, nor concentrate your attention on one part however imposing; but, retiring to a point of view from which a survey of the whole could be obtained, you would see how, by each part fitting and entering completely into the structure, the desired effect was produced.

Were your object, on the other hand, to test the stability of the building, a different process would require to be pursued. You would inquire how the foundations were laid, and how the masonry

was wrought; and, thus bringing each part, in turn, under your minutest inspection, you would satisfy yourselves as to the security of the whole.

And so in the study of any science. If we seek to conceive of it as a whole, then we must contemplate it as it stands, fitly framed and jointed together, and resting on the foundation of eternal truth. Very different, however, is that process of inquiry by which we become satisfied of the strength of its position as a science. Each individual part must be considered, and we must almost follow the footsteps of those whose earnest forethought and patient toil have succeeded in attaining for it the position it claims. For, in such a work, successive bands of labourers must have been employed-some of whom cleared away the rubbish by which the site was encumbered: others laid deep the foundations: and others still reared on these, walls and battlements and towers;—and, perhaps, the strangest chapter in the history of any science is that which discloses how little idea those earnest labourers had of the general plan of the fabric to the erection of which they were so successfully ministering. For each might be seen working busily

in his own circumscribed department, all unconscious, apparently, of the operations of his fellows, till, ever and anon, some master-mind would appear, to regulate and control their more isolated labours—to give connection to the parts so separately framed, and impulse and unity to the construction of those hereafter to be formed. It is. also, the task of these higher artificers to remove incongruities which might mar the effect sought to be produced; for, is it surprising, that, among the many who thus unite in labouring, some should seek less to accomplish their allotted work than to please the motions of their own caprice, and should thus encumber the stern simplicity of the original design with the grotesque creations of a wayward fancy?

We have thus indicated two methods in which a science may be viewed, each useful for its own purpose. And if we, this day, prefer to take a rapid survey of the Science of Medicine as a whole, it is because we conceive that it has somehow happened, at least in later times, that the attention of its cultivators has been so much directed to the examination and elaboration of individual parts, that the evidence of its truth, which results from

the complete union of all these parts into a whole, has been thereby weakened.

But, ages ago, were its foundations laid, deep, solid, strong. Since then the building has gone on-at one time, rapidly; at another, by slow and painful progress. Here have the materials been supplied and fashioned, polished and carved, with care; there, roughly hewn, and hastily put together. Here has risen a stately tower, shewing what the whole was destined to become; there, some grotesque erection, which has no relation to the plan, and which must be swept away by the first master-mind who rules. And it will, hereafter, be the office of my colleagues and myself so to introduce you to the plans which nature has framed and ordained, in the sciences which are severally to engage your attention, that when you come to labour with and under her, you may so fashion and dispose the materials at your command, that every stone which you place may fit aright and add to the beauty and usefulness of the whole. Let me, however, in passing, observe, that when I speak of Nature as framing and ordaining, I only seek familiarly to express the action of those eternal laws which our Creator has

imposed on the works of His hands, and by which His overruling providence condescends to operate,—laws which it is the object of science to investigate, and of faith humbly to adore.

You will at once see that it is not necessary that a science so treated should be perfect in every part. In all much may be wanting to completeness; in some but the merest germs may appear; for there is this essential difference between man's operations and those of Nature, that, while his energies can be directed only to the elaboration of individual parts, she moulds a whole system at once; for, in the words of the great Father of inductive philosophy, "As when a carver cuts and graves an image, he shapes only that part whereupon he works, and not the rest; but contrariwise when Nature makes a flower or living creature, she engenders and brings forth rudiments of all the parts at once."

As then, during the years you devote to study in this place, you will be engaged in a minute investigation of the foundations of medicine itself, and of those various sciences on which its doctrines rest; I propose this day rather to vindicate its position as one of the sciences, that thus surveying it as a whole, this your first introduction to it may serve to suggest an idea of the scope and bearing which each part has upon all the rest; so that hereafter, in your minuter attention to details, you may learn to estimate the value of each, and to determine its fitting place in that economy of which it forms but a part.

And in alluding to the place in which we assemble for the first time this day, I feel sure, that those of my respected colleagues, who, though standing, in all other respects, precisely on the same footing as the teachers in this particular school, have not found it convenient to join them, will forgive me, if I now bid you welcome to it, and express the satisfaction which we feel in inviting you to commence your studies, amidst external circumstances the most favourable, and with every accessory to the cultivation of science at your command.* We meet beneath the shelter of an Institution to which Medical Science lies under the deepest obligations, which founded the first chair of medicine in this city, and which gave the impulse to the creation of the Medical School in this University, since so justly celebrated, and

^{*} See Appendix A.

never more worthy of its fame than now.* To it we, too, may trace our origin. But I ask you not to look back to the years which are past, nor to contemplate the fame of those by whom we have been preceded. Still less need I point around to various seats of learning in this and the sister kingdoms, adorned by those who have gone forth from among us.† Rather would I bid you anticipate a future in which you yourselves may assume a part; and remind you, that by teachers and students becoming willing fellow-worshippers at the shrine of Nature, she will yield to both her choicest gifts; so that, adorned with these, you may go forth and, by the goodly offerings which gratitude may prompt you hereafter to lay upon her

^{*} See Appendix B.

⁺ Of the thirteen professors of whom the Medical Faculty of the University of Edinburgh at present consists, seven were formerly teachers in the Edinburgh extra-academical School,—viz., Professors Syme, Simpson, Gregory, Henderson, Millar, Balfour, and Bennet; and not to speak of times long past, it may be mentioned, that the late Mr. Liston, and Professors Sharpey and Ferguson, were transferred from it to University College and King's College, London, Professors William and Allen Thomson to Glasgow, Professor Lizars to Aberdeen, and the late Professor Reid to St. Andrews. The President of the Royal College of Physicians, and the former and present President of the Royal College of Surgeons, also at one period belonged to it.

altars, reflect new lustre on the temple of science we are this day met to consecrate.

Medicine is at once a science and an art. But, as a living philosopher observes, "Art is the application of knowledge to a practical end. If the knowledge be merely accumulated experience, the art is empirical; but if it be experience reasoned upon, and brought under general principles, it assumes a higher character, and becomes a scientific art."—Herschell.

This, then, is the great question which we have to solve,—Is our art really, as our enemies would fain represent it, a chaotic mass, without form and void,—where there is no general principle to guide, and no scientific rule to follow? or can we, on taking an impartial survey, really conclude, that, notwithstanding the numerous errors that have marred it, and the numerous imperfections that yet cling to it, there is still in it so much of truth as to bid us strive, amidst our imperfect knowledge, after that which is more full? For the skilful sculptor, while elaborating the creation of his mind, as ever and anon he regards it, is not disheartened so long as it presents, each time, a progressive approach to its intended type; so ought

we fearlessly to proceed with our labours, ever striving to approach nearer and nearer to the attainment of the perfect image, though we perceive not in our science, all at once, that clear and deep impress of truth for which we long.

Scientific laws of action undoubtedly exist; for has not that body, so strangely and curiously constructed, its definite laws of action with which we intermeddle? and have not the substances with which we seek to affect it, their definite laws of action too? They work not the one on the other by chance, but in obedience to a control, which directs and regulates and restrains them; and though, at times, to our limited capacity, their movements may appear to be partially interrupted or perverted, yet who can doubt that the disturbing elements so introduced are not let loose by chance, but in obedience to, and under the guidance of, a superior power, still working to a definite end? and see ye not how futile must be the effort which would seek to countervail that giant force by aught less potent than that which itself supplies?

This, then, is the position on which we must take our stand when contemplating the science of Medicine. What are the powers which regulate the action of the machine? By what laws do they operate? And how far can we modify, arrest, or control them?

But for such investigations as these, not one science only, but many are required. One must tell you of the parts of which the machine is composed, the structure of which they are formed, and the varied characters they possess. Another must unfold the wondrous laws which regulate the harmonious working of all these parts. Another must investigate the derangements to which they are liable-how produced, how prevented, and how removed. Another must examine the agents from without that have been found to affect it—whence procured, how prepared, and how they act. And so each varied branch of science here taught, comes to have a practical bearing on the philosophy of our profession; for though each labourer may appear to act irrespective of the other, or even to cross and recross each other in seeming confusion, yet when each separate thread has been inwoven, there is evolved, at length, a harmonious web, each colour appearing in its destined and appropriate place.

For we will not allow that the disturbing influences, which at times affect our bodies, and which we would consider as foreign to them, and denominate disease, result from ought else than the operation of those laws by which it was originally framed and is still preserved. What structural difference is apparent between infancy and manhood? The same hydraulic engine propels the vivifying stream through the body; the same muscles move the limbs; the same strange laboratory prepares the elements which go to support the frame; the same presiding power issues its fiats along the same delicate wires; yet how different the activity at each period! In the one, the external frame is acquiring the grace and development of manhood; and when that is accomplished, the powers by which it was effected sink into repose, till some extraordinary emergency recalls them to action. The same formative power which gave grace, and beauty, and strength, to the mother in her progress through juvenescence, is now exerted in the development of her offspring. or put forth to repair the result of accident or the ravages of disease; or, with what we are, perhaps, too much disposed to consider misdirected energy,

displays itself in unnatural development of parts by which their healthy action is destroyed. Or, again, at a later period in the ordinary course of nature, that power awakes from the dormancy of middle life, and puts itself forth to destroy that fabric which it had reared; or, acting by the very same laws by which its operations were regulated, whether in the spring or autumn of our being, it may, at an unseasonable time, vindicate its latent energy, and prematurely snap the brittle thread of life.

What life is, we seek not to inquire. There are mysteries of our being which we cannot attempt to solve, and before which even proud philosophy must stand in silent adoration. But how life manifests itself, is another and more legitimate inquiry. One thing is indelibly stamped on all its operations,—we mean mutation. The human body is in a state of incessant change;—from the hour of its creation till its final dissolution, its busy functions enjoy no repose. True, the living principle may appear to slumber, as in the seed of plants and in the ova of certain animals. It is there not in active exercise, but still it is there; so that even the grain of corn, which, like

that found in Belzoni's mummy, has companioned for centuries with the dead, will, when freed from its dreary prison-house and acted on by its appropriate stimuli, assert, by vegetation, its vital power. Therefore it is thus that, along with the living principle, there is ever found associated the power of responding to external stimuli, for life manifests itself in such responses. And thus, too, we speak of a vital force, as presiding over, and regulating the growth and development of the body, or a vis medicatrix, as repairing its injuries and protecting it from the effects of disease. using such expressions, we only give a name to the supposed cause of some of the phenomena by which the hidden power manifests itself. We seek not to solve the secret of its essence; and though the mode of expression be somewhat figurative, as all language must be which has reference to what is immaterial. yet it serves to assert the important doctrine, that in these bodies of ours, resides a power which the scalpel and microscope of the anatomist, or all the appliances of the chemist, or the deepest reasoning of the physiologist, have failed to discover; but a power which shews itself in every operation of the body through life; and which, forsaking it at death,

leaves it to be acted on by the laws of a grosser, because more material science. We have, indeed, mechanical and chemical operations continually going on; and with the sciences that instruct in these you ought to be familiar. The food is torn and masticated, dissolved and decomposed; new products are formed, and gases evolved. To assist in this, various movements of the jaws, stomach, and intestinal tube concur; and these chemistry and mechanical philosophy can teach you. But there they stop; and beyond, and above them all, are powers, visible only in their effects, by which all are regulated and controlled and made to work harmoniously together. And when we remind you, that the laws of the living being are independent of those of physics and chemistry, we mean not to undervalue these and the other collateral sciences. They are useful, in the first place, as important means of mental discipline; in the second, as forming a necessary starting point for the examination of the laws of life. In the earlier stages of your education, you must give to them and to anatomy an earnest and undivided attention. But, having mastered them, you have yet to be taught how little they can inform you of the

mysteries of health or of the subtilties of disease. To obtain this information, you must investigate the body itself, not only with scalpel in hand, as it lies on the anatomical table,—for this, too, is but elementary and mechanical; -but you must see it as it lives and moves; you must study man in his daily habits of mind and body,—in the enjoyment of health, and afflicted with disease,-in your intercourse with him in society,—and in the sickroom, as varied by age, by temperament, by condition, and by every circumstance which can affect And valuable as are the principles which have guided you in the acquisition of other sciences, you will find that they are but in a small degree applicable to that of medicine. True, there must be the same diligent investigation and collection of facts, the same ascending from particular to general truths, the same zealous watchfulness against presumptuous hypothesis. But while in other sciences you find that each forms, as it were, an entire system, well founded, and resting on a small number of laws, by which its phenomena may be rigorously explained, forming, so to speak, a chain of truth, every link of which is inseparably united with that which precedes, and

that which follows it;—in medicine you have no such harmony. Few are the fundamental principles which will help you to anticipate tedious details. These must be gathered by slow and patient observation; and though, at times, you may seem to have grasped a chain that will lead to truth, yet, before long, many a broken link will serve to shew that the system has not yet been fully discovered which can be a sure guide through the mazy windings of long experience.

We speak not thus to discourage you. That a brighter day is dawning for our science we firmly and fondly trust. But there are specious forms of error abroad, against which we warn you,—false science, assuming now the sober dress of a simplicity very attractive to the earnest longer after truth, and now the motley garb of the too successful charlatan,—and by these even our seats of learning have been invaded. The very vanity of our nature shrinks from the admission, that there is aught unknown or impenetrable by us. The range of subjects embraced in the study of medicine is so vast, so intricate, and so profound, that those who have not humility to confess their weakness are glad to rush into

any hypothesis, however extravagant, which, by disguising their ignorance, may minister to their pride.

What the laws of attraction are to astronomy, those of electricity to physics, and those of affinity to chemistry, such are those of the vital force to medicine. It is this which, in subordination to the Great First Cause, originates and maintains the living being in all its parts—which rules and regulates all its functions—which shews itself as a power that can create, preserve, and restore, according to the demand which is made on its energies. But is it not also a power which can destroy? In the energetic language of a living author, "though Nature knits up wounds with her adhesive inflammation, by the very same method she glues the intestines into fatal entanglements, shackles the heart, and chokes up the windpipe. In this man, she soothes the grief of a wound by pouring out serum; in that, she makes the same effusion effectually close the rima glottidis. She spirts blood from the hæmorrhoidal vessels of Paul, who blesses her for saving him from apoplexy, of which very disease poor Peter dies. because she has poured the very same fluid into

his lateral ventricles,—and so on; for man's body is a microcosm, in which one sees the play of Zoroaster's antagonist principles. Nature is ever the same,-blessings are mixed with curses,-the poisonous berry and the nutritious root are found on the same plant, - there are balmy dews and pestilent fogs, fertilizing streams and destroying deluges,-and the lair of the murderous lightening is in the cloud that floats across the blessed sunshine."* In truth, as the vital force presides over and regulates every movement or change in the body, those alterations which we denominate disease are also the effect of its operations, and must be removed by the application of agents which have some power of modifying and controlling it. It is in this that the true philosophy of the healing art consists. We must know that power which has become perverted, ascertain in what the perversion consists, endeavour to discover and remove the causes which have produced it, and, if the removal of these do not issue in the return of natural action, have recourse to means which may assist it so to do.

^{*} Symonds on Excessive Trust in Nature.—British and Foreign Medical Review, Vol. xxii., p. 559.

In such inquiries, two classes of forces must, as has already been explained, be recognized,—the one residing in the medicine which is to act, the other in the body which is to be acted on. There are but three ways in which bodies can act on each other, -mechanically, chemically, and vitally, or, as it has been recently termed, dynamically. For an illustration of the mechanical remedy, we shall apply to the art of surgery. By some accident an artery is divided, and the blood gushes forth; were the stream to continue uninterrupted, death would be the inevitable result. But mark how the vital force interposes, operating not on one point alone, but throughout the whole extent of the circulatory system. First, the heart depending for its action on the stimulus of blood becomes, as the vital stream drains away, less and less energetic in its contractions, thus propelling it less forcibly from the open wound; next fainting comes on; and thus, for a time, the discharge is arrested. and an opportunity given for the local means of suppression to take effect. These consist in the plugging up of a partial wound by coagulated blood, or in the retraction of the parts and complete closure of an artery entirely divided. But if, during this process, the blood were allowed to stagnate in the veins, its motion would entirely cease, and the death of the whole system would result. The diminished stimulation of the brain, from defective supply of blood, causes convulsive movements of the muscles to supervene; and, by their agency, a kind of circulation is maintained without the same risk of an increased flow from the wound. Now, when the surgeon interferes, the whole means which he employs are just directed to cause a coagulum to form; there is here no opposing of the efforts of the vital force; on the contrary, they are aided and encouraged, and, without their assistance, his most judicious efforts would be in vain. He may, indeed, divide the inner coats of the artery; but what causes them to retract? He may stem the main current, and thus stop immediate danger; but how can he open the collateral branches, and thus prevent the death of the part which that artery supplied? He may, for a time, mechanically stop the tube; but how can he produce that adhesion on which the patient's permanent safety depends?

But the chemical effects of remedies afford illustrations even more numerous and important. A pale bloodless female presents herself to the phy-

sician; her waxy complexion, blanched gums, sluggish frame, all point to some defect or deterioration in the blood. Chemical analysis shews that it is ill supplied with one of its most important ingredients. The red particles on which the vivifying and calorific properties chiefly depend are deficient, and every function of the body is secondarily impaired. Exercise produces faintness, breathlessness, and fatigue, because the muscular system is not sufficiently supplied with blood; for the same reason, the heart is weak, irritable, and irregular in action, the appetite impaired, the bowels torpid, the secretions disordered. And what is the treatment which science would suggest, and which experience proves to be useful in such a case? Just to supply to the blood those elements which it requires. Thus we find, that a salt of iron enters largely into the composition of these blood discs; and experience has shewn, that, under the use of various preparations of that metal, the blood will resume its normal character, and the cheeks again display the ruddy glow of health.* We have

^{*} The accurate analysis of the blood by Andral have rigorously demonstrated this: In one instance, after iron had been taken for a short time, the proportion of globules was found to have risen from 49.7 to 64.3; and in another, in which it had been longer continued, it had risen from 46.6 to 95.7 per cent.

given you this as a practical illustration of the value of medicine, and of the way in which the physician may aid without interfering with the powers of Nature. His was the hand that supplied the deficient ingredient; but hers the living power that appropriated it to her wants. Chemistry told what was wanting in the blood, and pharmacy supplied the necessary preparation; but to this their powers were limited. The vital force took it and moulded it into form, and applied it by the laws of a higher instinct, which no science can discover, and no art approach.

But, again, the fact that a large number of what are termed contagious diseases, such as glanders, sloughing pustule, measles, small-pox, &c., can be propagated by the application of blood taken from persons labouring under them, seems to point to that fluid as the chief seat of those morbid poisons on which they severally depend.

Let us, then, endeavour to trace the natural course of these diseases, and let us see whether the plan of treatment which experience has found to be most useful in them be agreeable to the analogy of Nature. When the poison first takes effect, the nervous power is diminished, pain in the head and

spine results, the action of the heart is weakened —the supply of blood to the surface vessels becoming thereby deficient, their tonicity causes them to contract, and the blood is thrown on the internal organs. This is the type of the first stage in all these Zymotic* diseases; and, when the dose of poison is excessive, patients sometimes die in this stage, as in cholera and in severe yellow fever. Do you not in this see the operation of a sedative poison acting primarily on the nervous system, and, secondarily, on all the functions of the body? But, in a short time, the depression of the nerves tells on the surface capillaries—their tonicity is diminished, they become relaxed, and the blood flows back to them; the hot stage then begins, though, in some cases, such is the effect of the poison, that the nervous centres cannot supply sufficient influence to produce a hot skin and full pulse, and then you have livid injection, cold skin, and typhoid fever.† It is at this period that these critical discharges take place which the ancients

^{*} A term introduced by Mr. Farre, (Fourth Annual Report of Register General of Births, Deaths, and Marriages,) to designate those diseases in which a small portion of contagious matter generates itself, and spreads through the entire system.

[†] Billing's Principles of Medicine, p. 234.

(much closer watchers of the phenomena of disease than we can pretend to be) delighted to observe; and with them the disease often disappears.

But what is the rationale of all this fermentation in the system? The treatment of all poisons admits but of two indications; first, to endeavour to effect their removal from the system, or, second, failing this, to counteract their effects. For the purifying of the blood, the body possesses certain emunctories,—the skin, the kidneys, and the bowels. Critical discharges seem to be just an effort of Nature, in which she seeks to expel the poison through these channels. What means the eruption in scarlet fever, measles, and small-pox?—Surely part of a process for the expulsion of a morbid poison. What the critical sweat, or urine,* or

^{* &}quot;If I prove," says Dr. Golding Bird, "that, concomitantly with an enormous increase in the excretions of the kidneys, sudden improvement occurs in a patient—which change for the better does not take place until this great change is observed—I think it will be conceded, that I shall produce sufficient evidence to shew that the observations of our predecessors were correct, and that something like a critical exerction from the kidneys does take place, at least in the diseases which have been sufficiently carefully studied in this point of view." Accordingly, the observation of the urine in some cases of ague seemed to warrant the conclusion. On one of these cases, Dr. Bird remarks,—"It must be admitted, that there exists, to say the least, some curious

diarrhœa?-but the pouring of it through the legitimate channels of discharge. What means the hot stage immediately succeeding its primary effects?—but an effort on Nature's part, if she cannot remove the poison altogether, at least to transfer it from the more important organs to the surface. Mark now how the resources of our art imitate the powers of Nature. We stimulate the kidneys, the bowels, and the skin, and thus seek to expel the poison; and, in the absence of any antidotes which can destroy the poison without injuring the blood, we give stimulants to overcome the nervous depression, or narcotics to render the nervous system less susceptible of the irritation which they produce.* And, the more minutely it is examined, the more close will the analogy of our treatment to the efforts of Nature appear. The medicines which are said to act as antiperiodics are all taken from the class of tonics,—bark, chiretta, salicine, quassia, arsenic, zinc, &c. They all, in the first place, act on the cerebro-spinal system, and, through it, give tone and vigour to any part of the body coincidences between the free action of the kidneys, quoad the excretion of solids and the improvement of the patient."-Lectures on Organic Chemistry, Medical Gazette.

^{*} Williams's Principles of Medicine, p. 160.

which may be debilitated or relaxed. Now, are not these precisely such remedies as our analysis of the phenomena of the disease would lead us to employ? The nervous system is first attacked, the first operation of the tonic is on it; the capillary vessels are secondarily relaxed, and the secondary effect of the tonic is to cause their constriction. Mr. Pereira, in his truly admirable "Elements of Materia Medica," has the following passage:-" Cinchona, the most powerful of the vegetable tonics, and, in fact, the type of the class. has long been celebrated as a curative agent in ague and other periodical diseases; hence it has been assumed, that any substance capable of fulfilling the same indication, must be possessed of the same properties, and thus arsenic has been called a tonic. But the conclusion is erroneous. It is, indeed, true, that cinchona and arsenic have, in common, the power of curing an ague; but the same effect is frequently produced by many other dissimilar substances; for example, by blood-letting, by alcohol, and by mental influences. If, therefore, arsenic be a tonic, so also must blood-letting, &c." But surely the tonic action of arsenic does not rest on its antiperiodic power, but on its

"secondary effect in subduing various morbid states of the animal system;"* and it is quite possible, that, although tonics may assist Nature to throw off the paludal poison in one way, bloodletting may contribute to the same result in another. Indeed, the very modus operandi of blood-letting serves admirably to illustrate how, at a time when the leading symptoms seem to contraindicate it, it may still prove useful, because it acts agreeably to the analogy of Nature. Who would think of bleeding in the cold stage of ague when all the symptoms are those of depression? It has been thought of, it has been practised with success; and, although we by no means recommend the practice to be used indiscriminately, less, however, from its immediate than its ultimate effects, there is no question that it has often been employed with signal advantage, and seems most useful where the depression is greatest.†

The salts of metallic oxides, according to Liebig, possess a tonic action. Instead of abstracting matter from the tissues, they unite with them, (C. G. Mitsherlich and Dr. R. D. Thompson;) they constitute the true inorganic poisons; they are never in the excretions.—

British and Foreign Medical Review, xi., p. 442.

^{*} Christison Dispensatory, p. 185.

[†] In support of this, we quote from an able article in the British

This rational view of the matter explains to you how both bleeding and tonics may produce the same effect, although in different ways,—the one remedy removing the fluid which overloads the vessels, the other giving power to the vessels to relieve themselves,—and serves to shew the error of those who imagine that all remedies which cure the same disease must, of necessity, operate in the same way.

Again, in the process of transformation of the tissues which is perpetually going on, the blood takes up many matters, which, if conveyed into the arterial current, would prove injurious. These are separated from it by various glands, and poured out in the secretions. Certain of these compounds are separated by one secreting organ, and others by a different one. Thus the lungs and the liver

and Foreign Medical Review, (vol. xi., p. 469,) the author of which is by no means an advocate for the lancet:—"There is another form of ague in which we have found bleeding very serviceable. It is popularly known by the name of dead, or dumb ague. There are no distinct paroxysms, but frequent irregular shiverings; the pulse is feeble and intermittent, and the patient is constantly cold, languid, and oppressed. Here a moderate venesection, combined with measures to correct the abdominal secretions, which are in a most disordered state, will often immediately change the aspect of the case."

remove carbon and its compounds, the kidneys, nitrogen in its various forms. There are some forms of disease in which these compounds exist in excess in the blood, giving rise to many morbid Of these Gout may be cited as an exchanges. ample. In this disease, lithic acid, a product rich in nitrogen, is in excess in the system; and the vital force often causes it to pass off by the kidneys, the natural channel for the escape of such nitrogenous compounds; so that gouty persons often anticipate the disappearance of the pain, when they observe a copious deposit of lithic acid in the urine. Now what are the remedies which the physician prescribes for the relief of this disease? First, he starves out the azote, by withholding those articles of diet which supply it to the blood. Second, he strengthens the digestive powers, so as to enable them to appropriate it, and thus prevents it from circulating in the blood. Third, he imitates Nature, by seeking to expel the offending matter from the system; and this he does, by the use of remedies, which, like colchicum, act on the kidneys, whose office it is to remove similar elements in the healthy state.

As another illustration, we may turn to inflam-

mation, a disease of a most complex character, and embracing, under one of its many varieties, a large proportion of those acute affections for which we are called to prescribe in daily practice.

If agreement among physicians, as to the plan of treatment to be pursued, were the test of the propriety of the practice adopted, assuredly we should not appeal to inflammation. One applies cold, another heat, to the part in which the disease is seated. One seeks to soothe it by emollient sedatives; another to combat it by astringent stimulants. What a field for exultation to those who delight to proclaim the uncertainty of medicine! How can practice so different be successful? If one is right, the other must assuredly be wrong. Such assertions, however, go no farther than to proclaim the ignorance of those who make them. In our management of disease, we possess few, if any, specifics, which can directly destroy the morbid influence. We can only operate on it by modifying the vital force; and there are many agents, acting apparently in opposite ways, by which this purpose can be effected. Thus, taking a very general view of the subject, we find that nervous irritation is usually the first step in the train of morbid phenomena exhibited by inflammation; and that it is followed by dilatation of the capillary vessels, with retarded motion of blood through them, and, therefore, increase in the quantity of the blood which they receive. Sooner or later excitement of the heart supervenes, causing acceleration of the circulation throughout the body, and accompanied with changes in the character of the blood. Later still, we may have certain of the elements of the blood, or new products formed from it, deposited by those vessels in which the inflammation is seated. In endeavouring, then, so to regulate the vital force by which these derangements have been caused, as to lead the capillary vessels back to their normal state, it is evident, that respect must be had both to the stage at which the disease presents itself, and to the importance in the economy of the organ in which it is seated.

If, for example, the morbid process have scarcely advanced further than the dilatation of the capillary vessels, then means may be employed to restore them to their normal state of tonicity. This may be done in two ways,—first, by allaying that nervous irritation from which the loss of tone first resulted, which may be effected by warmth, emol-

lients, and other sedatives; or by exciting them to contract, by the use of astringents or even of local stimulants. In the first case, the cause being removed, the effect spontaneously disappears. In the second case, means are employed to check the progress of the effect, irrespective altogether of the cause by which it was produced. The two classes of remedies which are thus employed, although apparently opposed in the way in which they act, may yet produce the same ultimate effect, operating, however, through different channels. heat of the fire which at first stimulated the nerves, and through them produced inflammation of the tissue, may, if steadily applied and longer continued, cure that inflammation which itself excited, by causing the distended capillaries to contract; or the apparently opposite remedyplunging the part in cold water—will equally alleviate the disease. Seeming contradictions, certainly; but real contradictions only to those who refuse to study the vital laws.*

^{*} It is very interesting, in this point of view, to examine the various, apparently opposing, remedies which have been experimentally discovered for the treatment of certain varieties of local inflammation. The empirical treatment of burns affords an excellent

But, though one great object is to produce contraction of the capillary vessels, mere local treatment directly applied to them will not in every case suffice.

example. We all know, that if, after being burnt or scalded, we have resolution enough to hold the affected part to the fire, it will prevent the farther progress of the inflammation,-a popular, though not philosophical example of the pretended law, "Similia similibus curantur." Now, according to the established writers on Surgery, in the treatment of burns "emollients afford immediate relief; but, in general, astringent applications are best," (Cooper's Dictionary.) Mr. B. Bell, after recommending the part to be immersed in very cold water, adds, that plunging it suddenly into boiling water would also procure ease; nor is there any reason to doubt the assertion. Mr. Cleghorn, a brewer in Edinburgh, was led, by his experience in scalds, to treat them with vinegar, -an astringent. Sir James Earle recommended iced water, although in this he had been anticipated by Rhazes and Avicenna. Baron Larrey, a most experienced military surgeon, thought that all astringent applications were injurious, and had recourse to emollient ointments; while Dr. Kentish applied the strongest stimulants to the part, and with the very best results. It thus appears, that, to use Mr. Cooper's words, "In cases of burns. cold and hot, irritating and soothing, astringent and emollient applications have all been outwardly employed without much discrimination;" and all this may appear very contradictory to those who inagine that our treatment should always be specifically opposed to the existing disease; but the apparent contradiction disappears, and the mystery—that such opposite systems may all produce cures is solved, when we analyse the elements of which inflammation consists, and see how each of these may produce the same result on one or other of the disordered functions or altered structures.

The energetic action of the heart, forcibly propelling the blood into these vessels, acts, by keeping them in a state of forced distension. By reducing the quantity of the circulating fluid we remedy this in various ways; and hence the utility of bleeding in cases of acute inflammation. For, first, by removing some of the circulating fluid, we relieve the over-distension at the affected part. Second, we diminish the blood, which is the normal stimulus of the heart, and thus weaken the force of the heart's action. Third, by withdrawing part of the blood from the brain, its susceptibility is diminished, and thus irritation is allayed, because the brain then less readily sympathizes with the affected part, and also less powerfully stimulates the heart to increased action. Fourth, we cause an afflux of blood to the opening in the vein, and thus mechanically diminish the congestion at the seat of the disease. Fifth, we effect an alteration in the character of the circulating fluid, as is proved by the disappearance of the buffy coat of the blood after free bleeding in inflammation. There are certain medicinal agents also, although not so potent in their action, which produce similar effects. Tartar emetic, for example, at once diminishes the action of the heart, and causes contraction of the capillaries; and thus is entitled, perhaps, to rank next to blood-letting, in the treatment of inflammation. Saline substances, again, taken into the intestinal canal, withdraw water from the blood circulating in the adjacent vessels;* and thus the quantity of that fluid is decreased, and its quantity altered; hence they are largely used in the treatment of inflammation. Opium, again, diminishes the nervous sensibility, and thus removes one element of the disease. There is no blind play

The North American Indian employs the heat of the sun to expel the watery fluid from, and thus preserve, his animal food. The civilized European preserves it in the same way; but withdraws the watery particles by the more searching operation of a chemical agent.

^{*} According to Liebig, a concentrated saline solution, when conveyed into the stomach, by withdrawing water from the adjoining tissues and their vessels, produces thirst and a purgative action. A dilute solution, on the other hand, is absorbed. All mineral salts, without alkaline basis, have the same purgative action, whatever the base or acid is, whether potash, soda, or magnesia, or phosphoric, sulphuric, muriatic, or nitric acids. The same kind of effect may be familiarly illustrated by the effect of muriate of soda on the animal tissues after death. A dry bladder is little affected in a saturated solution of common salt; but fresh meat, which has been strewed with salt, will, after a short time, be found swimming in brine, although no salt has been added. The salt has extracted the water from the meat, and the water, in its turn, has dissolved the salt.

in all this. The agents we have recourse to have a determinate action; and the determinate action of each is precisely suited to combat some one of the elements of which this complex disease is formed.

And even from those diseases which we cannot cure—the opprobria medicina, cancer, tubercle, melanosis, &c .- a lesson may be drawn as to the solid foundations of our art. The knife of the surgeon, or the caustic of the empiric, may cut off and burn away the first, but in doing this the disease is not cured; a morbid matter circulates in the blood, and is deposited in certain organs; and till we discover something which will destroy it without injuring the blood, a cure will be impossible. Tubercle, the mechanical cause of consumption, is a disease not of the lungs but of the blood; local treatment, then, will never avail against it.* And when the real remedy for consumption is discovered, it will be found to be something which will prevent the deposition of tubercle,

^{*} I have elsewhere put on record my opinion of the curability of consumption, and of the consumption-curers of the present day. The article is reprinted unchanged, not as an essay on the subject, but merely as a review of a work professing to recommend a cure for consumption.—See Appendix C.

rather than attempt its removal after it is once deposited. Meanwhile we seek, by strengthening the constitution and allaying the secondary effects of the morbid deposition, to assist Nature in the struggle she is waging with the destructive element; and, in some cases, we succeed in prolonging life, though, by so doing, we have not advanced a single step towards a real cure.

If the powers of Nature be adequate, in so many cases, to effect the removal of disease, it will not surprise you to find, that cures often take place even while the patient is under injudicious treatment, or that which is tantamount to no treatment at all. When this occurs under the use of ordinary remedies, it excites no surprise, because the means employed were expected to issue in recovery; but when it succeeds to agents of an unusual character, the very doubt previously entertained of their efficacy increases our astonishment at the triumph they are supposed to have achieved.*

^{*} To illustrate this, I have given in the Appendix some remarks on the supposed cure of Miss Martineau by animal magnetism, which I published in the Northern Journal of Medicine at the time of the appearance of her celebrated letters in the Atheræum.—See Appendix D and E.

Gentlemen,—You are now entering on the study of medicine. You commence your professional pursuits in an age in which, beyond all former precedent, the boundaries of our science are extending. On the one side, are a band of toil-some investigators sifting the ground of our every belief, watching Nature with anxious observation, and interrogating her by varied experiment; on the other side, see those by whom the results are patiently collected, grouped together, and made to express themselves in more general laws; for your inquiries must not stop at mere barren facts,—for they will but little avail you in medical practice.

You are hurried to the chamber where lies a fellow-mortal, stricken down by some sore disease. Around the bed on which the sufferer is stretched his relatives and friends are assembled. You press through the group of breathless watchers. With them you mark the glassy eye, and listen to the deep and heavy breathing. From them you learn that the patient was suddenly deprived of sense, and power, and motion. These various symptoms are the facts of the disease, cognizable alike by the physician and the bystanders. But memory is not idle. She carries you back to a

scene which vividly impressed you when it occurred; other and more recent events may have weakened, not destroyed, your recollection of it, and the present scene only restores it to its original freshness, and causes each minutest particular to stand out anew in bold relief.

In another darkened chamber, another scene of suffering humanity, you had watched for hours as the fluttering pulse and the still increasing insensibility told that life was ebbing. Your efforts were all in vain. Death had claimed his victim. and you could not unhand his stern grasp. And why does the one scene recal the other? Because there is a similarity in the occurrences by which each is marked. Here, then, the mental process of comparison comes into play, and places in contrast or correspondence two different series of facts. further, in the former case the internal change on which the external symptoms depended had been ascertained, and you now begin to consider, whether the same symptoms, in the case before you, are not again the signs and indices of the same changes. Here again the mind must act, and the facts are but as the starting-point from which your ideas set forth. As mere facts, they impress the bystanders equally with yourself; for deep interest in the sufferer has in them quickened every perception, and has given to the observing faculties new and increased powers. But to them they are barren, after all! Why do they anxiously gaze in your face? Is it not to discover your opinion as to the probable result? But the book you both read from is the same—the helpless sufferer before you; there he lies.—the facts are exhibited to all alike; but the minds which seek to interpret them have been differently trained, and they gaze on you to inquire, not what you see, but what you think. And all the time you are engaged in pondering evidence, and decide from it, coupled with your former experience, that a blood-vessel has given way in your patient's brain, and that from this his symptoms arise. And this, too, may be a fact. The ruptured blood-vessel may be there, the effused clot may have torn the brain, and may now be pressing upon it; but if it is a fact, it is one which all your powers of observation could never have discovered; a mental process has intervened, and you have inferred, from what you see, what is concealed and invisible. But, again, what is to be

done? Life is in danger, and must, if possible, be saved. Perhaps while you pause, more blood is oozing from the ruptured vessel, fearfully increasing the risk of the ultimate result. But you know, that, in hæmorrhages of this kind, blood-letting is a powerful means of arresting the discharge. This then is a fact, not obtained very likely from your own experience, but the result of the observations of others; and, in order to act upon it, you weigh intuitively the testimony on which you received it. Again, you know that in this particular case the weakness and exhaustion incident to the first great shock will subside, but that this will be followed by subsequent reaction,—a fact, too, with which, perhaps, former experience has supplied you, and which, in order to be recognized, demands reasoning on the whole processes of cause and effect. And when you prescribe your remedies, it is because you believe that they will have power to produce certain effects; and what is power but the antecedent of cause to effect,again a mental question—a question to be mentally solved.

I am far, very far indeed, from believing, that in the case which I have mentioned or in any similar one these mental processes are rightly understood by him who follows them. There are many who may exercise their intellectual powers vigorously and soundly without ever casting an introverted eye on their mode of operation. They may use the instrument without understanding either its construction or its principles; just as the unlettered clown may, with the telescope, survey the starry heavens, and see the phenomena there displayed as distinctly as does the man of science, and yet be ignorant all the time of the optical laws by which the instrument is constructed, or of the combinations of lenses on which its wonderful powers depend.* Nor is it necessary, in either case, that the *construction* of the instrument should be understood; but you must understand its use. You must be practised in its employment; and, just as the observation of the stars would of itself neverhave constituted astronomy, so the observation of symptoms would never of itself explain disease. It is the mental process to which they give rise that alone renders the facts available for the discovery of disease or for the regulation of its treat-

^{*} Brown's Lectures on Moral Philosophy. Lecture First.

ment; but you must be taught justly and soundly to estimate the facts, and intelligently and philosophically to pursue the reasoning. Let us, then, talk no more of fact and theory as opposed to each another. The one is plain and manifest as an open book; but, without the other, it is expressed in a language which we cannot understand; it consists of signs without their significations.*

I am aware that the student too often prefers that teaching which stores his memory without exercising his judgment. This arises from the utilitarian tendency of the present age, of which a chief characteristic is, that in knowledge, as in every thing else, an *immediate* advantage is demanded. It were vain, perhaps, in our day, to attempt to argue, that knowledge is worthy of being pursued for its own sake, for the dignity its possession confers, and for the pleasure which its acquisition bestows. Give us that information which will serve us in the real and practical business of life! is the almost universal cry. And we will not dispute, that in this age of bustling and jostling contention—when the ingenuity of men is sharp-

^{*} Consult on this subject Dr. Lothian's admirable Lectures on Clinical Medicine, especially Lecture V.

ened by necessity, and when everything is brought to bear on the business and ordinary transactions of life-such considerations are imperatively demanded. But let us well weigh, and maturely consider what is the really, the practically useful. If, as we have attempted to shew you, every fact involves a theory, if both are inseparably connected in the building up of a science, and if theory is only to be rightly formed and securely constructed by the reasoning powers of man, is it not by cultivating these powers, and by directing them into this new and somewhat peculiar channel, that your minds will be the best formed to think on such subjects, and to think correctly; and that thus, a well-cultivated reason presiding over and directing all your actings, you will learn daily to despise mere empirical maxims, and become philosophical and successful practitioners? With principles of this kind firmly impressed on your minds, you will go forward in the pursuit of your profession with a confidence equally removed from reckless boldness or from shrinking timidity. The study will demand all the powers you can bring to bear upon it, and even then will, in many instances, disappoint you.

All the agencies of Nature are not at your disposal, nor are all the powers of life obedient to your call. But just as the skilful pilot directs his vessel, and trims and changes its course agreeably to the laws of his art, as the winds or tides, which he cannot control, may affect it; just as the judicious husbandman uses all the means which ordinarily secure a plentiful harvest, though he cannot bid the sun shine or the dew descend, or prevent the nipping frost or disastrous hail,—so the physician will seek to treat his patient agreeably to those laws which Nature herself has taught him; and, knowing that contingencies may arise which may frustrate the best laid plans and baffle the most judicious management, he will seek to labour in subordination to Him in whose hands alone are the issues of life.

When energetic treatment is demanded, he will employ it without fear; when the powers of Nature are sufficient to effect a cure, he will not rashly intermeddle. At all times, he will prove the "servant and interpreter of Nature;" and, while at one time, he will lay on her a restraining hand, at another he will, with reverence, regard her

power fulfilling an end which all his art would have failed to accomplish.*

In the laws of our art, so briefly, so imperfectly sketched, are there not the lineaments of a Divine philosophy? For is not science, as Liebig has well expressed it, "the simplest means of obtaining the greatest effect with the smallest expenditure of power." And it is given to each one of you in the progress of your studies, and still more when the time comes for entering on the discharge of the duties of your profession, so to order your farther acquisitions, whether derived from the recorded observation of others or from your own practical experience, as, keeping the principles of your art steadily in view, to feel that you are not labouring in vain, but really enlarging the domains of knowledge. This will of itself prove the means of immediate and inexhaustible enjoyment. Outward success may not attend you; the adulation of the world may not be your lot; but

^{*} Neque pudet fateri, me non semel in curandis febribus, ubi nondum constaret quid mihi agendum esset, nihil prorsus agendo et mihi et ægro consuluisse optime; dum enim morbo invigilarem quo eum opportunius confodere valerem, febris vel sponte suâ sensim evanuit, vel in eum se typum redegit ut jam mihi innotesceret quibus armis esset debellanda.—Sydenham.

yours will be a higher dignity and a more enduring possession.

The scientific labourer and the mere artizan in our profession live and move in two different worlds. The one in the phenomena with which he is daily conversant sees only unconnected objects and insulated facts: the other beholds these harmoniously blended, and acting under laws uniform in their operation and bearing the impress of the infinite wisdom by which they were planned. To the latter the discoveries of the past become the germs of future progress, and he is redeemed from a slavery to power and authority, and elevated to an existence worthy of a rational being. Nor are his studies the mere abstractions of mental pursuits; they are fraught with benefit not only to the immediate objects of his care, but to the whole human race. For he among you who will labour to follow his profession in the brighter light of a high philosophy will not only give the surest earnest of his future success, but will be accomplishing the noblest end for which man can live and acquire learning-his own improvement, and the benefit of his kind. For as a noble poet has written,-

"The chief use then in man of that he knowes,
Is his paines-taking for the good of all,
Not fleshly weeping for his own made woes,
Not laughing from a melancholy gall,
Not hating from a soul that overflowes
With bitterness, breathed out from inward thrall;
But sweetly rather to ease, loose, or binde,
As need requires, this fraile, fallen, human kinde.

Yet some seeke knowledge meerely to be knowne,
And idle curiosity that is;
Some but to sell, not freely to bestow;
These gaine and spend both time and wealth amisse,
Embasing arts, by basely deeming so;
Some to build others, which is charitie,
But these to build themselves who wise men be."

LORD BROOKE.



APPENDIX.

A.

THE NEW SCHOOL OF MEDICINE.

"The place in which we assemble for the first time this day."—P. 7.

The new Medical School, at the opening of which the foregoing Address was delivered, has been erected by the Royal College of Surgeons on a piece of vacant ground contiguous to the area on which their noble hall stands. Externally, it is designedly most plain and unostentatious; but within, the class-rooms and various other apartments have been laid out with a view to practical utility, in a manner which reflects the highest credit on Mr. Scott, the architect. In particular, the rooms for practical anatomy are admirably constructed, and the chemical laboratory is unrivalled in Great Britain, if not in Europe.

INFLUENCE OF THE COLLEGE OF SURGEONS IN FOUNDING THE MEDICAL SCHOOL IN EDINBURGH.

"Which founded the first chair of medicine in this city, and which gave the impulse to the creation of the Medical School in this University, since so justly celebrated, and never more worthy of its fame than now. To it we, too, may trace our origin."—P. 8.

The first idea of affording systematic instruction in medicine in Edinburgh, and thus preventing the necessity of our countrymen going to the Continent to study, seems to have originated with Dr. Pitcairn.*

A petition, dated 24th October, 1694, was presented to the Magistrates by Alexander Monteith, Surgeon—a gentleman of whom Dr. Pitcairn speaks in the highest terms, and who had previously delivered lectures on Chemistry and Materia Medica.

The object of Mr. Monteith was to obtain a grant of certain unclaimed bodies, and a convenient house for dissection. The prayer of the petition was granted by the Council, under certain judicious limitations. Even at this early period of their history, the College of Surgeons shewed that disapproval of all monopoly in the teaching of Medicine by which, on many subsequent memorable occasions they have been so honourably distinguished, and took steps to secure a part of the grant for the

^{*} See Chalmers' Life of Ruddiman, p. 30; and Bower's History of the University, vol. ii. p. 148.

benefit of the profession at large, without prejudicing the claim of Mr. Monteith. Accordingly, we find from the Registers of the Town Council, that on the 2d November, 1694, they granted to the Incorporation of Surgeons the right to receive certain bodies, upon conditions; of which one was, "that the incorporation of Surgeons shall, before the term of Michaelmas, 1697, build, repair, and have in readiness, an anatomical theatre, where they shall, once a-year, have a public anatomical dissection, as much as can be shewn upon one body;" and on the 22d December, 1697, we find it reported to the Town Council, that the anatomical theatre was ready and furnished.

It would appear that, for some years, no one member of the Corporation of Surgeons was set apart to perform the duty of teaching; but, in 1705, Mr. Robert Elliot was unanimously elected their public dissector of Anatomy; and the Town Council, on the 29th of August of that year, allowed him a salary; and he was, thereafter, regularly inducted, and became the first Professor of Anatomy in Edinburgh.

Mr. Elliot died in 1714, when Mr. Adam Drummond was chosen as his successor. He associated Mr. Macgill with him in the office; and they continued to teach Anatomy conjointly until 1720, when they demitted their office in favour of the *first* Monro, who was, on the 22d January, 1720, "nominated and appointed," by the Town Council, "to be Professor of Anatomy in this city and college during the Council's pleasure."

C.

ON THE CURABILITY OF PULMONARY CONSUMPTION.

Being a Review of Hastings on Pulmonary Consumption, written for, and published in the Northern Journal of Medicine for October, 1845.

It is not our intention to undertake anything like a critical examination of this work. Its ostensible object is to introduce the employment of naphtha in the treatment of consumption; and we cannot see why this imposed on the author the necessity of presenting a regular treatise on the disease. A few pages in one of the journals might have contained all that is novel in this goodly octavo.

The first edition was, the author informs us, favourably received; but we suspect that this was due more to the subject of the work, than to its character; for as long as honest physicians confess that they have no remedy which can cure consumption, so long will the zealous enthusiast, equally with the interested empiric, obtain a hearing. The misfortune, in such cases, is, that the very nature of the disease affords ample room for self-deception to the one class and imposition to the other. It has been calculated by the late Dr. Young, Dr. Woolcombe, and others, from the best data which the bills of mortality afford, that, in Great Britain and Ireland, consumption causes one-fourth part of the deaths that occur from disease. How many, then, must there be deeply interested in the discovery of some

antidote for this wide-spread poison! how many eager to catch at any prospect of a cure! how many, already sealed with the fatal malady, willing to submit to any treatment to avert their anticipated doom! Again and again will it happen, that one after another of these victims will grasp at the promised recovery which ignorance or cupidity proclaims, appear temporarily relieved, and eventually sink and die. And some there may be, who even seem to come off victorious in the struggle with this fell destroyer. Do we, therefore, admit that consumption is ever cured? No, certainly, not by any human agency; and yet there is no fact in medicine better established than this, that in certain cases and under certain circumstances it undergoes a spontaneous cure.

In a recent paper by Dr. Bennett on this subject,* we are surprised to find it stated, that the cicatrices in the lungs, which denote the spontaneous obliteration of a vomica, "have been considered as occurring very seldom." "Laennec," continues Dr. Bennett, "records only six cases, Andral eight; and various writers have published isolated cases as worthy of remark, from their rarity." Now, so far are the observations of Dr. Bennett, with regard to the frequency of these cicatrices, entitled to the claim of novelty; and so far is his account of the previous ignorance of pathologists, in reference to this subject, correct, that we find Laennec speaking thus decidedly:—"On the other hand, from considering the great number of the phthisical and other

^{*} Edin. Med. and Surg. Journ., April 1845, p. 406.

subjects, in whom cicatrices are found in the summit of the lungs, I think it is more than probable, that hardly any person is carried off by a first attack of phthisis."*

But admitting to the fullest extent the possibility of such spontaneous cure, and the frequency of its occurrence, it is of importance to inquire how far we are entitled to build upon it our hopes of successfully treating the disease. We may concede at the outset, that there is nothing malignant in the nature of tubercle itself. No one ever died from the mere deposition of tubercle in the lungs. Beyond the mechanical impediment to respiration which it occasions, its presence there, did it produce no ulterior effects, is wholly unattended with danger. Whence, then, the fatality of the disease? or why is it that we look upon its appearance with dread? Paradoxical as the statement may appear, it is on account of its very curability, or rather of those processes which Nature institutes in order to accomplish a cure; for it is not by the tubercle that the patient is killed, but it is by the ulcerative process which Nature has established for its removal, which, destroying the structure of the lungs, produces death.

So much do some modern authors seem carried away with the desire of being considered consumption curers, and, at the same time, of establishing their claims to this character on pathological grounds, that it may be necessary to remind our readers, that in all cases where these cicatrices are found, there are certain concurrent circumstances by which that termination has been

^{*} Forbes' Translation, 2d Edition, p. 358.

brought about, and over which medicine has, as yet, little, if any control. For, first, it is essential that the number of tubercles, the elimination of which has occasioned the cavity subsequently cicatrised, be small; and second, that the further deposition of tubercles shall be arrested; for it were of little consequence were one vomica only to be healed, while others were forming eventually to destroy the patient. And these two conditions are actually dependent upon one and the same thing-both, in fact, implying that there is no great tendency in the constitution to the development of tubercle. Here, then, we would pause to ask the question—have those who, at the present day, inundate our literature with novel modes of treating consumption, in so far as they rest their claims on its occasional spontaneous cure, advanced the treatment of the disease in the very slightest degree? Unhesitatingly we answer, No. The bullet, which, by its presence in the flesh excites suppuration, is conveyed to the surface, has a way opened for it through the integuments, and subsequently escapes. And what would we say of the sagacious surgeon, who, wrapped in all the panoply of arrogant self-conceit, should daily report the progress of such a recovery, and annoying the patient the while by the exhibition of sarsaparilla, liquor potassæ, cod-liver oil, or naptha, should lay the flattering unction to his soul, that by one or all of these vaunted remedies he had effected the cure?

Do we, then, despair of ever being able to cure consumption? Undoubtedly not; but, if the discovery is to be made, another track must be followed than that

which such inquiries indicate. When we shall see the scalpel of the anatomist no longer pointing in triumph to a cicatrised cavity as proof of the powers of his healing art; but when this shall have given place to such discoveries as shall shew us how the morbid state of the system, on which the secretion of tubercle depends, may be prevented; or how, when it has commenced, it may be suspended or controlled; then, and not till then, we shall hope that the rational treatment of this disease is in the way of being discovered. What expectation can one really conversant with pathology entertain by following the other track? The tubercular matter may excite inflammation, a solution of continuity may follow, and its expulsion may be effected; the further progress of the ulceration may be arrested; nay, the walls of the cavity in which the tubercle was contained may unite in a firm cicatrix; but the same cause which originally produced the tubercle may produce it again. The same process which removed it even excites its formation; so that, to use the words of Andral, "it may be indefinitely recreated simultaneously with the pus destined to produce its elimination."

Holding these views on pathology, it cannot be expected that we should receive, with anything like favour, a work such as that of Dr. Hastings. There are many reasons why a medical man, jealous of his professional reputation, would hesitate about putting his name to such a production. It is well known, that consumption is a disease, "which," to use the language of Dr. Latham, "often accomplishes its course by parts and parcels." It is not always its character to proceed pro-

gressively from bad to worse. It is subject to many temporary suspensions, and, occasionally, to entire arrests on its progress. There are few practitioners who have not witnessed marvellous instances of apparent recovery, where all the symptoms, physical as well as rational, of phthisis displayed themselves; -- marvellous, however, only because they had forgotten that such was the natural course of certain varieties of the disease. It is because such cases frequently occur, and afford so ready a means of imposition, that the honest practitioner is inclined to look suspiciously on their publication. It is plain that neither naphtha nor any one of those remedies, which, at different times, have enjoyed a temporary celebrity for the cure of this disease, can attain the reputation claimed for them, till they fulfil those indications which we have shewn to be essential for the radical cure of phthisis. Even if the cases to which we are so liberally treated prove all for which they were published, we still hold them valueless, because deficient in this essential requisite; and it is thus, that each remedy mounts in turn to the summit of the wheel of fortune, only to follow its predecessors in their fall. Sir Charles Scudamore may vaunt his iodine and conium inhalation, and desert it for the hydropathic system, "as fickle fancy changes." Dr. Hocken, like St. John Long, may cure all the world beside of consumption, and fall a victim to it himself;* while his

^{* &}quot;Died of phthisis, on the 12th August, at Chasewater, Cornwall, Dr. Edward Octavius Hocken, one of the physicians to the Blenheim Street Infirmary and Dispensary. Dr. Hocken, although cut off at a very early age, had made himself well known to the profession, by his

partner, Dr. Hastings, still maintains the delusion, and distributes his medicinal naphtha to the credulous public. But every well-informed medical man is aware, that the like improvements, and the like cures, would, in all probability, have occurred among the same number of cases, unsubjected to any treatment whatever. The very fact of the number of cases in which post-mortem examination reveals cicatrised cavities, in cases where consumption was never suspected during life, and in which no medical treatment was directed to the lungs, throws great doubt, of course, on these other cases where cicatrisation took place after, but probably not in consequence of treatment.

But it is time that we should turn from these general views to a more particular consideration of the work before us. We shall first quote the *a priori* reasoning by which Dr. Hastings was led to the brilliant discovery which promises to immortalize his name. We feel assured, that, whether the depth of the reasoning or the felicity of expression be considered, they shew abundant proof of the present advanced state of medical science, and ought to encourage Dr. Hastings in the further search after discoveries, which, in his hands, become, to quote his own expression, "curious and interesting facts."

"The reasons which induced me to deviate from that line of medical practice which has so universally and for so long a time been in vogue, for that now submitted to the profession, was the fatal termination of

numerous writings, among which, was 'A Practical Inquiry into the value of Medicinal Naphtha in Tubercular Phthisis.' London: Highley. 1844." all cases, whatever was the treatment adopted, during an experience of twenty years. I was led to the conclusion, from a careful survey of the chemical analysis of tubercle by Thenard,* that it was defective, inasmuch as the composition of the animal matter, which, it will be observed, amounted to ninety-eight parts out of a hundred, had not been investigated. From the greasy nature of tubercle in its crude state, there did not exist the slightest doubt in my mind that carbon entered largely into its formation, and that its composition had a striking resemblance to fatty matter. This opinion was further strengthened by the discovery of those spherical bodies, which strikingly resemble the smallest oil globules found in milk. Further investigation may prove, that the last change effected in tubercles, before being expelled from the lungs, is a return to that normal structure from whence they derive their existence, which will not only be a curious but highly interesting fact.

"From these opinions, I determined to employ those compound agents, rich in carbon and hydrogen, in the treatment of phthisis, which had not been previously used in medicine; not with the idea that they would make up the deficiency in fat which the system had sustained in the progress of the disease, but that they would be productive of a change in the blood, powerful enough to destroy the morbid condition which generated tubercle."—P. 149, 150.

The perusal of this most interesting speculation may possibly leave the reader under the impression, that nothing further is required in proof of the efficacy of naphtha; but the mind of our author is of that high order, which proceeds from speculation to experiment; and the following delicate operations were resorted to, for the purpose of still further strengthening his case:—

*	Animal matter98	8.15	
	Muriate of soda)	
	Phosphate of lime		
0	Phosphate of lime	7 1.85	
	Oxide of iron, a trace		

"1st, A little naphtha having been put into a bent tube, resembling the capital U, some expectorated matter was poured upon it, which had been determined, with the microscope, to be rich in globules of tubercle. Gentle heat was then applied, and the naphtha driven off, when the super-imposed secretion presented a mere shapeless mass of animal matter, the globules having entirely disappeared.

"2d, Some tuberculous secretion, highly charged with globules of tubercle, was placed under the field of the microscope, and a drop of naphtha added, when an immediate disappearance of the globules ensued, leaving behind a mass of the same character as on the former case. The frequent repetition of this experiment invariably led to the same result.

"3d, Some tuberculous secretion of the lungs was put into a portion of the intestine of a child, and placed over a wide-mouthed bottle, which contained a small quantity of naphtha, between which and the intestine a clear space of three inches remained. A spirit lamp was then placed under the bottle, and a very gentle heat applied, until slight ebullition took place, which continued for an hour. The contents, when removed from the intestine, and examined with the microscope, presented the same appearance as described in the previous experiments."—P. 156, 157.

So clear, so ingeniously conceived, so delicately executed are these experiments, that the vilest caviller must be silent. Dr. H. has discovered in the sputa of phthisis, a number of spherical bodies, resembling the smallest oil globules found in milk. These "may" be tubercle, "returning to their normal structure" (!); but treat them with naphtha and gentle heat, and, lo! they become a mere shapeless mass of animal matter. True, all this took place in a "bent tube, resembling the capital U;" but let a human body take the place of the bent tube, and the result will, of course, be the same; indeed, this is sufficiently proved by the elegant experiment, in which the intestine, full of tubercle, was

stewed for an hour in a wide-mouthed bottle. Has Dr. Hastings ever subjected his globules to the action of ether or nitric acid, or aqua-potassæ? If so, let him tell us how they were affected by these re-agents.

Having thus, in accordance with the most enlightened modern system of discovery, fixed on a remedy for the disease, the next thing is to decide what is the proper variety of that remedy to be employed. And we cannot but think that great injustice has been done to our author, by not sufficiently attending to the purity of the drug.

"Although I mentioned, in the first edition of this book, several tests for the recognition of medicinal naphtha, cases are constantly occurring, in which oily, milky, and coal tar naphtha, are administered, and most prejudicial results ensue. Without further inquiry, I have been unjustly made responsible for these flagrant acts of carelessness, from which conclusions have been drawn, prejudicial to the character of the treatment. Hence practitioners cannot be too strongly impressed with the paramount necessity of taking especial care that a spurious agent is not employed for a medicinal one. There are, I am aware, several products of coal tar in the market, so prepared, that all the oily matter is removed, which produced the turbid and milky appearance when mixed with water, noticed in the former edition; consequently, this test, which was so much relied on then, is now greatly lessened in value. Nevertheless this description of naphthat is readily known from the medicinal preparation, by the pungency of its taste, and its disagreeable and more powerful odour."-P. 109.

Further on we are informed—

"It was my good fortune to commence my experiments with that kind of naphtha called pyro-acetic spirit, being quite unaware, at the time, that there was more than one kind; and the knowledge that I had been, in this particular, the 'mere sport of circumstances,' grew out of an occasional change in the druggist, and the favourable or

unfavourable symptoms which followed the one or other supply.* By experiment, I soon formed a criterion, by which I could identify the kind of naphtha I had found to be successful. My test was its colourless and transparent character, and agreeable etherial alcoholic odour; its specific gravity, which was 0.823 to 0.824; its increase of temperature consequent upon mixture with water; its preservation of appearance on the addition of nitric acid; and its taste being warm, without the least sensation of burning. 'Dr. Ure has recently suggested an easy method of effecting this object, which is founded on the following facts:-If nitric acid of specific gravity 1:45 be added to pyroxylic spirit, the mixture assumes a red colour, but no effervescence takes place. If the same acid be added to pyro-acetic spirit, there will be no change of colour, but an effervescence will slowly be formed, accompanied with an elevation of temperature, and copious evolution of gas, resembling, in appearance, the action resulting from the mixture of alcohol with nitric acid; but with an acetic smell, instead of an etherious one. Pyro-acetic spirit may also be generally distinguished from pyroxylic spirit, by its causing no appearance of milkiness on mixing with water, in the state in which it is met with in commerce.' "†-P. 153, 154.

Dr. Hastings was induced to try naphtha from the composition of tubercle, leading him to believe that an agent, rich in carbon and hydrogen, would produce a cure. We would here ask, Were the injurious specimens of naphtha not rich in carbon and hydrogen?

But it is not every case of phthisis which will be benefitted by the remedy. Equally important, then, must it be to decide, what are the kinds of cases in which it is likely to be beneficial? The following is our author's description of them; and we cannot help thinking, that he must have been peculiarly fortunate,

^{* &}quot;I have since learned, that the naphtha I originally prescribed, was put aside by the druggist, as a useless article, in consequence of its failing to dissolve gums, for which purpose it had been purchased."

[†] Pharmaceutical Journal, vol. iii., p. 35.

if he met with a sufficient number of this mild character to enable him satisfactorily to test the virtues of his remedy:-"From these observations, it will readily be seen that the less phthisis is complicated with other affections, the more suitable it is for this treatment. Where the pulse is at the ordinary standard, or thereabouts, where the hectic is slight, laryngeal and peritoneal disease absent, the functions of the stomach and bowels not much impaired, the constitutional disturbance inconsiderable, and the physical signs denoting only a slight deposit of tubercles in one lung, the prognosis is favourable, and a speedy recovery may be anticipated."—P. 118. We must be particularly careful not to prescribe it in cases complicated with dyspepsia; for, "when complicated with dyspepsia, little or no benefit will accrue from its use, until that affection is removed."—P. 126.

But to shew the value of this sort of evidence, we find another recommender of naphtha, Dr. Bennett, telling us, "the dyspeptic symptoms frequently continue throughout the disease. They often become uncontrollable, and the extreme irritability of the mucous membranes is evinced by vomiting, diarrhœa, bronchorrhœa, and laryngitis. These symptoms, with the dyspepsia, are frequently to be alleviated by naphtha, when all ordinary means have failed. The boasted good effects of this remedy are, I think, attributable to its great power of allaying the irritability of the stomach, and thus enabling the patient to take nourishment."*

^{*} Ed. Med. Surg. Journ., April 1845, p. 413.

Being thus prepared to test the efficacy of his remedy, all that Dr. Hastings now required, was "a fair field, and no favour." Nor was this wanting; but he shall himself tell the story:—

"An opportunity soon presented itself. A physician to one of the metropolitan institutions, alike remarkable for his benevolence, liberality, and intelligence, permitted the naphtha treatment to be tested in the hospital to which he was attached. The group of cases treated amounted to about a dozen, and furnished specimens of the disease in all its stages. Severe headache, with only one or two exceptions, followed its exhibition, which was often so excessive, that it was obliged to be abandoned after a few doses only had been taken. In one or two cases, besides the headache, some of the phthisical symptoms, such as cough, expectoration, and difficulty of breathing, were augmented. In a patient who was labouring under the disease in its first stage, although the naphtha was withheld once or twice, in consequence of excitement and headache, it was eventually borne, and the patient improved considerably under its use, but was lost sight off, through his leaving the hospital. He promised to continue an outpatient, -which he failed to do, -in order that the progress of the disease might have been watched.

"In another case, having excavations in the upper part of both lungs, in which no marked untoward symptom followed its use, the cough and expectoration considerably diminished, whilst the appetite increased, and the patient gained flesh. His pulse was always considerably accelerated, a very rare symptom in cases in which improvement is effected."—P. 128, 129.

Such was the result of the *public* trial; and Dr. Hastings, admitting the failure, seeks to explain it away as follows:—"To what, then, are we to attribute these untoward effects? Is it to want of exercise, or to confinement? or does it arise from a deterioration the air undergoes in the wards of hospitals, through the unhealthy exhalations which are constantly exud-

ing from the bodies of other patients, with whom the consumptive are compelled to live? Probably it is owing to all these causes, otherwise it might reasonably be expected, that the well regulated system of nourishing diet, cleanliness, and orderly habits, enforced in these institutions, would ensure that success to the medical treatment unattainable elsewhere."-P. 130. But the corroborative cases of Dr. Bennett were cured under similar circumstances! Public trials, with specific medicines, are, however, usually less successful than private ones; -- why, we shall not attempt to explain. The effect of the naphtha was, however, very different, when, instead of being tried on the inmates of an hospital, it was administered to Mr. Seabrook, steward to Her Royal Highness the Duchess of Kent. This fortunate gentleman, after having been under the care of Mr. Merriman, anothecary to the household of the Duchess of Kent, Mr. Brown, apothecary to the Queen, Dr. Chambers, Sir Alexander Downie, and, in short, "more than a dozen principally well known and eminent men," who all pronounced his lungs tuberculous, "was," as he informs Dr. Hastings, "on my way to Brighton by railway, fortunate enough to see, in a newspaper, a review of your treatise on the Treatment of Consumption by Naphtha."-P. 134. To make a long story short, the worthy steward, like many of those fortunate purchasers of Holloway's or Parr's life pills, whose names flourish in newspaper advertisements, took his bottle, lost his disease, "and has very liberally given me the following statement for any use I might wish to make of it." We trust Dr. Hastings will feel

grateful to us for the prominence we have given to this truly wonderful and most astonishing cure. But in order the more completely to assist him in the object of his publication, we shall extend our quotation to the following hints, which seem scarcely addressed to the profession:—

"All persons naturally wish to prolong life, no matter how serious is the disease under which they labour, so long as the mental powers are not affected. This applies particularly to phthisis. The erroncous conclusions patients suffering from this affection arrive at, has often been adverted to. Many present themselves in the greatest confidence, believing that there is but little the matter with them, when their lungs are half destroyed by tuberculous excavations. In some instances, so late is the application made for advice, that the most remote prospect of success is cut off. But the other day, a young lady died only a few hours after I had seen her; and in another instance, a clergyman died early in the morning, before his medical attendant, who I had met in consultation the previous evening, could forward him a dose of medicine.

"Repeatedly have patients, within a day or two of their dissolution, sought my advice, and, although scarcely able to utter a sentence, have generally managed to inquire, not without great effort, whether their lungs were affected?"—P. 143, 144.

Let it be further observed, that his work is dated from No. 14 Albemarle Street.

The book characteristically concludes with innumerable cases, narrated both by the author and by other medical men, in proof of the efficacy of the naphtha treatment. It is not necessary to doubt the truth of these histories, in order to account for the supposed effect of the drug. The same sort of evidence has again and again been adduced in favour of many other remedies now forgotten. In appearance the most im-

posing, it is in reality the weakest of all arguments. We do not deny that naphtha may produce beneficial effects in the treatment of phthisis. It is, at least, a duty to try it; but we have seen too many instances of failure in the most boasted remedies to have much confidence in its success. In those cases where we have ourselves witnessed its administration, we cannot say that it produced any striking effects; but we have thought it right to acquaint our readers with the kind of drug proper to be used, and the nature of those cases in which its use promises, according to its advocates, to be beneficial. Multiplied experience will at last assign it its proper place, and, probably, add it to those various means, which, as Louis well observes, "have, of late, risen into notice, as possessed of the greatest power of effectually influencing the course of phthisis, or even effecting its cure; but, as we have seen, the best founded hopes in appearance, have, one after another, vanished before scrutiny." For, as yet, respecting the treatment of consumption, we must all, along with Sir James Clark, "admit the humiliating truth, that there is no reason to believe the physicians of the present day more successful than their predecessors were, ten, nay, twenty centuries ago."*

We cannot conclude this notice of one of a class of books which tend to retard the progress of rational medicine, without repeating the confident expectation, that the time will at length arrive, when we may hope successfully to combat diseases hitherto regarded as incurable. Meanwhile, it would be well, could we direct

^{*} On the Influence of Climate, p. 303.

the attention of any who may have a wish to enrol their names among the pretended curers of consumption, to the following just and honourable remarks of Dr. Cowan, the able translator of the first edition of Louis on Phthisis:—

"It would not have been difficult to have minutely detailed a multitude of precise and definite regulations for the treatment of phthisis, and, perhaps, to have impressed the minds of some with a favourable idea of our superior curative acumen; but we have studiously endeavoured to avoid the inducements which empirical reputation in medicine holds out, convinced that there are few obstacles more fatal to the progress of science and improvement, than the preposterous pretensions which quackery so unblushingly propagates, at the expense of all honourable feeling, and to the detriment of the health of a too easily deluded population.

"Notwithstanding all that has been written and done upon the subject of consumption, we are still totally unacquainted with anything like a satisfactory method of cure, and it is only when the upright spirit of injury, which has characterized our author's (Louis) researches, shall have equally pervaded the minds of those who are continuing the investigation, that any decided increase to our present knowledge, or rather the removal of our present ignorance, can be expected. To be strictly honest in medicine, requires unusual probity and devotion. Our efforts must not be undertaken with the cager hope of discovery, but with the conviction, that, at best, we can only furnish our item to the now accumulating mass of accurate observation, from which medicine, as a science, shall hereafter be eliminated."

D.

ON THE ALLEGED CURE OF MISS MARTINEAU BY MESMERISM.

Being a Review of her Letters in the Athenœum, Nos. 891, 892. Written for, and published in the Northern Journal of Medicine for January, 1845.

A FEW weeks have scarcely elapsed since, with feelings of most painful interest, we closed Miss Martineau's volume, entitled "Life in the Sick-room." To those of our profession who have been accustomed to study the mental phenomena of disease, the picture there presented, though not uncommon, is one of deepest interest. is the history of a mind in some respects powerful, gradually yielding to the encroachments of disease. exhibits to us all that morbid sensibility, all that overstrained acuteness to mental and bodily impressions, all those alternate elevations of hope and depressions of despair, which are the characteristic accompaniments of that protean malady with which in her case they were so evidently associated. With her, too, was that pride of intellect which struggled perhaps half unconsciously with her destiny, which made her cast aside that hope which, a solace to others, she was determined to treat as a child's play or day-dream, and that half-affected composure (we fear we must term it so) with which she views her condition as "under sentence of disease for life." At any time the contemplation of such a subject must awaken the deepest emotion in every sympathizing mind; but how is that feeling increased when the portrait is one drawn by the sufferer herself, and by

a sufferer who has often in other and happier moods ministered to the amusement as well as the instruction of a numerous class of admirers! Not that we dare to pity Miss Martineau. On her such pity would be mere idle waste—"selfishness." It would encroach on that self-respect upon which she builds so much.

To those who are familiar with Miss Martineau's works, and who have studied them more deeply than merely to enjoy the exquisite tenderness of some cottage scene, or the wonderful simplicity of her beautiful tales, the morbid state of her mind, when affected by bodily suffering, will occasion no surprise. They will remember the predominance of the imaginative in all her writings, and will recall a hundred instances of over-refinement, always too ready to pass into a morbid state; and they will often have lamented the absence of that practical common sense which deals with the affairs of ordinary and every-day life, and affords the surest foundation for a solid judgment.*

* The very object of Miss Martineau's popular writings has always appeared to us utopian in the highest degree, and we believe that a large proportion of her readers perused her tracts on political economy solely for the exquisite beauty of the tales, without taking the trouble to draw from them the moral she intended, or to read the moral which she saved them the trouble of drawing for themselves. In proof of this assertion, we subjoin the following extract, from an article in the November number of the North British Review on political economy, ascribed by general report to Dr. Chalmers:—"The proposal, as acted upon by Marcet and Martineau and others, to bring about a general postponement of marriage by the circulation of popular tracts charged with the philosophy of the subject, . . . this we have ever held to be a most ridiculous undertaking, a truly grotesque and impractical method for the accomplishment of the object which it professes."

In one of the most admirable of his critical lectures, Coleridge describes Don Quixote as "a substantial living allegory, or personification of the reason and the moral sense, divested of the judgment and the understanding. Sancho is the converse. He is the common sense without reason or imagination. These two characters possess the world, alternately and interchangeably the cheater and the cheated."—(Literary Remains, vol. i., p. 119.) The description of Cervantes is undoubtedly a caricature, but it is a caricature of which we meet many faint resemblances in everyday life.

With such an opinion of the characteristics of Miss Martineau's mind, and surely it is no disparagement to that gifted authoress if we hold that Nature has not left her free from mental blemishes, it did not much surprise us to hear that her disease had been removed by mesmerism. And here it is worth while stopping for a moment to inquire why it is, that not only with the vulgar, but even with those of superior endowments, the alleged cure of Miss Martineau is calculated to produce a movement in favour of mesmerism, much greater than if the case had been recorded as that of H. M., or any other unknown individual? In the first place, there is the fact of acquaintanceship; for hundreds who have read over and over again the advertisement of some quack nostrum, and unheedingly passed by its numerous well-authenticated cases of cure, will swallow it with confidence if their next-door neighbour affirms that it has exercised a beneficial effect on his complaint. And a popular authoress is a universal acquaintance, and

hence we feel towards her all the sympathy and confidence which acquaintanceship produces.

But, again, the temple of fame standing on its precipitous hill is approached by many an arduous path; and although it is true that they who have traversed these can best describe their bearings, and give information as to their features and general characteristics, yet, as each path has its own peculiar features, its own difficulties, its own pitfalls, he who has effected the ascent of one is often on that account just the more unfitted for detecting the windings and the devious tracks of the others. Yet the world in general act as if this was not the case. Let a man acquire eminence in any one particular department,—let his name become familiar as a household word, and straightway his authority will be supposed to have an extent almost universal, and he will be deemed capable of solving all the difficulties which each science presents. If time permitted, it were easy to demonstrate the baneful effects which have resulted from this popular and wide-spread fallacy, and how, by the intrusion of men exceedingly well informed in one department into others about which they were very ignorant, they have done disservice alike to both. Now so it is, that although we would willingly concede to Miss Martineau all the homage which her most ardent admirers can demand for her talents, we hold her to be altogether unqualified to bear testimony in favour of the alleged power of mesmerism.

But let us consider her own statement on the subject. We may premise that her disease was said to be internal cancer. Every professional man knows that there are only two ways in which such a disease could be removed,—either by a separation of the diseased part from the sound, and the subsequent discharge of the former—an effect which would have been of course observable—or by the vital action of absorption, in which case the diseased mass would, in all probability, have contaminated the entire frame, producing cancerous cachexia.*

Miss Martineau's first letter is dated November 12. She professes that, for some years past, she had been a believer in mesmerism. She had been brought to this conviction without having witnessed any of what she terms "mesmeric facts;" "but," she adds, "I could not doubt the existence of many which were related to me without distrusting either the understanding or the integrity of some of the wisest and best people I knew." In the same paragraph, she apologizes for a belief in the preposterous absurdities of mesmerism, by comparing them to the strangeness of the discoveries of Harvey and Bell, apparently unaware that, while the former are opposed to all reason, and contradictory of all experience, the latter were merely the following out of those acquisitions by which the territory of our knowledge had been for some years extending. The disease under which Miss Martineau was supposed to labour commenced in June, 1839. For the three succeeding years it increased rapidly, but for the two years preceding her trial of mesmerism it had been stationary. "During

^{*} We, of course, do not think it necessary to include the ossific transformation, which, although common in the lower animals, is very rare in man.

these five years," she says, "I never felt wholly at ease for one single hour. I seldom had severe pain, but never entire comfort. A besetting sickness almost disabling me from taking food for two years, brought me very low, and, together with other evils, it confined me to a condition of almost entire stillness—to a life passed between my bed and the sofa." Medical readers will be at no loss to account for all these symptoms, even without supposing the presence of any organic disease, when they find her stating also, "My dependence on opiates was desperate."

Miss Martineau's first séance was on the 22d of June, when Mr. Spencer Hall magnetized her "between the expiration of one opiate and the taking of another." The first passes were ineffectual, but at last "passes over the head made from behind," and "passes from the forehead to the back of the head" had the effect. But she shall tell her own story:—

"Twenty minutes from the beginning of the séance I became sensible of an extraordinary appearance, most unexpected, and wholly unlike anything I had ever conceived of. Something seemed to diffuse itself through the atmosphere, not like smoke, nor steam, nor haze, but most like a clear twilight closing in from the windows and down from the ceiling, in which one object after another melted away till scarcely anything was left visible before my wide-open eyes. First, the outlines of all objects were blurred; then a bust standing on a pedestal in a strong light melted quite away; then the opposite bust; then the table with its gay cover; then the floor and the ceiling, till one small picture, high up

on the opposite wall, only remained visible, like a patch of phosporic light. I feared to move my eyes lest the singular appearance should vanish, and I cried out, 'Oh! deepen it, deepen it!' supposing this the precursor of the sleep. It could not be deepened, however; and when I glanced aside from the luminous point, I found that I need not fear the return of objects to their ordinary appearance while the passes were continued. The busts reappeared ghostlike in the dim atmosphere, like faint shadows, except that their outlines and the parts in the highest relief burnt with the same phosphoric light. . . . Wherever I glanced, all outlines were dressed in this beautiful light, and so they have been at every séance, without exception, to this day, though the appearance has rather given way to drowsiness since I left off opiates entirely."

On a subsequent occasion, while taking a walk, her mesmerist (she had got a lady to operate now) "merely laid her hand on my forehead, and in a minute or two the usual appearances came, assuming a strange air of novelty from the scene in which I was. After the blurring of the outlines, which made all objects more dim than the dull gray day had already made them, the phosphoric lights appeared, glorifying every rock and headland, the horizon, and all the vessels in sight. One of the dirtiest and meanest of the steam-tugs in the port was passing at the time, and it was all dressed in heavenly radiance—the last object that any imagination would select as an element of a vision." It is rather too absurd, after this detail of waking reveries, to find Miss M. herself gravely asking the question, whether

or not it was all fancy? and then from its repeated recurrence answering this question in the negative, though what it was, if not fancy, we are allowed to remain in utter ignorance. Was Miss Martineau at this time a guest in the Castle of Indolence?—there such pleasant revelations have before fascinated the senses.

"A pleasing land of drowsy-head it was,
Of dreams that wave before the half-shut eye,
And of gay castles in the clouds that pass,
For ever flushing round a summer sky:
There eke the soft delights that witchingly
Instil a wanton sweetness through the breast,
And the calm pleasures always hovered nigh,
But whate'er smacked of 'noyance or unrest
Was far, far off expelled from this delicious nest."

After the second operation, Mr. Hall was prevented from seeing his patient, and, in despair, she applied to her servant, who, in two or three minutes, produced the desired effect. "But the patience and strenuous purpose required in a case of such long and deep-seated disease, can only be looked for in an educated person, so familiar with the practice of mesmerism as to be able to keep a steady eve on the end, through all delays and doubtful incidents; and it is also important, if not necessary, that the predominance of will should be in the mesmerist, not the patient. The offices of an untrained servant may avail perfectly in a short case for the removal of sudden pain or a brief illness, but from the subordination coming from the wrong party, we found ourselves coming to a stand." Another mesmerizer was accordingly procured in the widow of a clergyman, and "when," says Miss Martineau, "I found myself able to repose

in the knowledge and power (mental and moral) of my mesmerist, the last impediments to my progress were cleared away, and I improved accordingly." But, as the case proceeded, new phenomena were developed. "As the muscular power oozes away under the mesmeric influence, a strange inexplicable feeling ensues, of the frame becoming transparent and ductile. My head has often appeared to be drawn out, to change its form according to the traction of my mesmerist," &c. On reading this, we are inclined to inquire, as Miss M. herself did regarding the lights, is the feeling real or fanciful? As it occurred repeatedly, we must, according to Miss M.'s reasoning, conclude that it was real, and that her head was of so ductile a nature as to be drawn out or compressed at the will of the magnetizer. We would suggest to the phreno-mesmerists the advantages that might attend the conferring of such ductility on human crania. They might then mould them at will, and develope their organs with prodigious effect, till the whole nature of the man should be entirely changed.

At a subsequent stage of the treatment, a new agent was brought to bear upon the cure. The niece of her landlady, a girl of nineteen, was magnetized in order "to improve her infirm health, and for obtaining light as to the state and management of my case, then advancing well, but still a subject of anxiety." This young person was magnetized, and then prescribed for Miss M. "I cannot here detail," says the latter, "the wonderful accuracy with which she related, without any possible knowledge of my life ten or twenty years ago, the circumstances of the origin and progress of my ill health,

of the unavailing use of medical treatment for five years, and the operation of mesmerism on it of late."

A vessel having been wrecked in which a son of the girl's aunt was supposed to be drowned, and the night being too stormy for her to walk to Shields to inquire the particulars, a much simpler method was resorted to. The young woman was thrown into the magnetic sleep, and immediately gave them the fullest history of all that had occurred—the safety of the crew, and the manner in which they were saved. Some individuals there may be, of so credulous a temperament, that they may be brought to believe that in a magnetic sleep a man can see with other organs than the eye, and hear with other organs than the ear;* but we unhesitatingly affirm that such statements as those we have recorded, and innumerable others which we might quote, if true, prove incontestably that the source from which these informations are derived, must have its origin from a being who is omnipresent and omniscient, and, if we are really to believe such marvellous relations, it must be that that Spirit to whom alone these attributes belong had delegated, for some inscrutable purpose, a power of this kind to the "silly women," who are here exhibited. Miss Martineau is, we believe, a rationalist;—we would ask her with all seriousness, whether the mysteries which she refuses to receive with simple faith from the highest of all authorities, are more inexplicable than those which she thus devours with such easy credulity?

^{* &}quot;The somnambulist uses neither eyes nor ears, and still he sees and hears better then if he were awake."—Du Magnétisme Animal en France, par A. Bertrand, page 292.

One instance of this young woman's prescription is given. Miss M. was giving up laudanum, when her fortitude almost gave way, and she bethought herself of having recourse to it once more. In the moment of uncertainty the sorceress was consulted. "She said at once what my sufferings had been, and declared that I should sleep more and more by degrees, if I took (what was as contrary to her own ordinary ideas of what is right and rational as to mine) ale at dinner, and half a wine-glassful of brandy in water at night." Miss Martineau "obeyed, took it for a week, and so lost her miseries."

In winding up our digest of Miss Martineau's account, we refer with regret to the way in which she attempts to defend herself from ridicule in what she had done. Her reference to the miracle of the blind man would, we think, have been better omitted, unless, indeed, she holds the doctrine of Richter, that all the miracles of the New Testament are performed by means of animal magnetism. She, too, must have a theory as to the manner in which animal magnetism acts; and we are, accordingly, presented with a vague and indefinite hinting at the mysterious powers of Nature, and how these powers may be increased by mesmerism so as to enable them to throw off a disease which had previously bid them defiance. For our own parts, we have an absolute horror at transcendentalism, and infinitely prefer Wolfart's solution of the action of this mysterious agent. "When," says this distinguished magnetist, "the vital dance of the viscera flags, we must lend it a helping hand. We must strike up, and play vigorously, joyously, and in elevating harmony; then the organs which were fatigued, or disordered, or out of tune, will begin to dance regularly in intertwining mazes, until they will at length sing to themselves the appropriate rhythm, without requiring the aid of our medical music; but were we to fiddle unmelodiously, or too violently, the viscera would remain deaf and unmoved in their places, or would fly the scene, and there would be no dancing. The best medicine of the ordinary kind can only strike up a tune, and that truly is much; but magnetic medicine can not only strike up a tune, it can lead and join the dance, and that is much more," &c. &c. &c.—Wolfart's Annals of Magnetism, vol. ii., part ii., page 29.

We really cannot waste our own and our readers' time by any further quotations; we shall therefore conclude by a very brief commentary on the statements for which Miss Martineau is so ready to vouch. Do we then disbelieve these statments? Most certainly not, as far as Miss M.'s personal experience is concerned. In the first place, it is very evident, if she is really restored permanently to good health, that her medical advisers must have been mistaken as to the nature of her case. We are all aware, that at a certain period of female life, when the system no longer relieves itself by its accustomed channels, certain functional disorders are apt to arise, producing in many cases extreme suffering, and creating the suspicion of the existence of malignant All medical men are also aware, that in many cases it is difficult, perhaps impossible, to distinguish these from the commencement of malignant action, and the records of medical experience indubitably prove, that in many instances mistakes have been committed. These affections are found in many cases to cease spontaneously; and where they are associated, as they often are, with a highly nervous temperament, a powerful influence acting on the imagination will often be sufficient to overcome them.

In the second place, we would draw attention to that peculiar state of the nervous system which the habitual taking of opium engenders, the results of which were so affectingly displayed in Miss Martineau's last publication. We have known instances, and our professional brethren can easily substantiate this, where, when some strong agency has been brought to bear on those whom that pernicious system has reduced to a state of confirmed bad health, cures as surprising as those of Miss M. have been performed by the resolute discontinuance of the daily poison. If, as we are led to believe, the "specific medicine" which Miss Martineau "had been taking for upwards of two years" was iodine, those who are acquainted with the peculiar effects of that medicine will be at no loss to understand many of the symptoms, and to explain much of the cure by which its discontinuance was followed. The peculiar giddiness, nausea, and loss of appetite, muscular weakness, emaciation, and sense of sinking, which, when taken for a long time, it produces, will often cease very speedily when its use is given up. But even were iodine not taken, the explanation is not difficult. We find a lady, gifted undoubtedly with considerable talent, but with great preponderance of the imaginative in her composition, affected with a severe

disease, but of which one of the chief elements is an over-excited state of the nervous system, locally and generally. By an unfortunate but very pardonable mistake, this is supposed to be a malignant and incurable disease; the patient is candidly informed of her supposed irremediable condition; in order to palliate her symptoms, remedies calculated to diminish still further the tone of the nervous system are resorted to; under their injurious influence, health and strength are gradually giving way; but from the very first there had been a persuasion in the patient's mind that one supposed remedy might possibly prove beneficial; means are afforded by which this can be tried; hope, the most powerful of all the stimuli to the nervous system, is excited; under its influence the patient temporarily gives up those false supports on which her "dependence had formerly been so desperate;" the nervous system begins to recover its tone; her hopes are thus encouraged, and this again re-acts favourably on the nerves, till sufficient strength is attained to enable her to discard them altogether.*

In a recent article in this Journal on "Quackery in Diseases," the *modus operandi* of these apparent cures was fully explained; it is, therefore, unnecessary to discuss it here. However gifted Miss Martineau may be,

^{*} The only interruption in the progress of the cure was when the magnetizing was performed by the servant. Confidence was for a time lost, hope was diminished, recovery was retarded. But when a person "on whose knowledge and power she was able to repose," undertook the management, confidence and hope were again restored, and the cure progressed accordingly.

one thing at least is clear,—she has studied neither the elementary constitution of the morbid product which she believes to have been removed, nor the mode of action of that agent by which she believes its removal to have been effected. On this account she claims the character of an impartial witness, although it is very obvious that she is deficient in the first requisite—the knowledge of "How to observe." Were morals or manners* her theme, we might listen with respectful attention; but in a subject so alien to all her pursuits, and so much above even her powers, we refuse to depart from the teachings of reason, common sense, and experience. There are certain fixed principles, which in these days of restless mental excitement it were well that men would firmly lay hold of. When the wave of error is sweeping past, and carrying on its summit the light and fantastic bodies which always dance on the surface, these may appear to have been left behind in its rapid advance. But as surely as it flowed, so it must also ebb; and that which, fixed and immovable, calmly stood its onward sweep, will be found again in advance when the receding flood rolls back its restless waters.

^{* &}quot;How to Observe-Morals and Manners. By Harriet Martineau."

E.

REMARKS ON MR. GREENHOW'S MEDICAL REPORT OF MISS MARTINEAU'S CASE.

A Review of a Pamphlet, entitled, Medical Report of the case of Miss H—— M——. By T. M. Greenhow, F.R.C.S., Surgeon to the Newcastle-on-Tyne Infirmary, &c., &c.

Abridged from the Northern Journal of Medicine for March, 1845.

In our January number we noticed at considerable length the statements of Miss Martineau relative to her alleged cure by animal magnetism. Since then the pamphlet now before us has appeared from the pen of Mr. Greenhow, the brother-in-law and professional attendant of that unfortunate lady. To us its perusal has been highly satisfactory, confirming, as it does, in every important particular the view which we took of the case previous to the publication of any professional information.

It is but justice to Mr. Greenhow, however, to state, that he never supposed the disease to be malignant; on the contrary, he states,—

"Knowing well that no symptoms of malignant disease of the affected organ existed, I always believed that a time would arrive when my patient would be relieved from most of her distressing symptoms, and released from her long-continued confinement. The catamenial crisis appeared the most probable period, but I did not despair of this happening sooner; though she never

willingly listened to my suggestions of the probability of such prospective events, and seemed always best satisfied with anything approaching to an admission that she must ever remain a secluded invalid. This state of mind, perhaps, may be considered as an additional symptom of the morbid influence over the nervous system of the class of diseases in which this case must be included."

The above passage confirms, in every particular, the opinion we had been led to form of Miss Martineau's state of mind from the perusal of her work, "Life in the Sick-room," though how Mr. G. could feel it right, "believing that a time would arrive when his patient would be relieved from most of her distressing symptoms," ever to make "anything approaching to an admission that she must ever remain a secluded invalid," we are altogether at a loss to conceive.

Our experience of the effects of the continued use of iodine had nearly convinced us, from the statements of Miss M.'s feelings, detailed by herself, that she had been using this remedy, and this is confirmed by the statements of Mr. G. "It was on this account that I was induced to propose a course of iodide of iron, which, with few and short intervals, was persevered in till July or August of the present year."

The iodide of iron was first given in October 1841, so that she took it for three years consecutively!

Mr. Greenhow's report so completely confirms the view we have already taken of Miss Martineau's alleged cure, that we do not consider it necessary to enter again

on the discussion, but shall conclude with the remark of Mr. Greenhow, that "the experienced practitioner will have little difficulty in bringing the whole into harmony with well established laws of human physiology."

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